DETAILED ACTION

Reply Period Is Reset/Restarted

[1]   In response to error detected by the Examiner and not addressed in the previous non-final

office action, the reply period is reset to three (3) MONTHS from the mailing of this office

action. Examiner vacates the previous office action and a new office action follows below.

Response to Arguments/Amendments

[2]   Presented arguments have been fully considered, but are rendered moot in view of the

new ground(s) of rejection necessitated by the 1.132 affidavit filed on October 28, 2008.

Claim Objections

[3]   Claim 7 is objected to because of the following informalities: "inserting" should be

"inverting". Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

[4]   Claims 1-15, 20 and 21 are rejected under 35 U.S.C. 101 as not falling within one of the

four statutory categories of invention. While the claims recite a series of steps or acts to be

performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory

category (such as a particular apparatus), or (2) transform underlying subject matter (such as an

article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued

by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of

'Processes' under 35 U.S.C. 101"). The instant claims neither transform underlying subject

matter nor positively tie to another statutory category that accomplishes the claimed method

steps, and therefore do not qualify as a statutory process.

If the applicants want a more detailed explanation please contact the Office of Patent

Legal Administration (OPLA) at (571) 272-7701. Since, Examiner is required follow this

memorandum and cannot elaborate further than what it recites.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

[5]   Claims 1-3 and 10-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kopec

et al. ("Kopec") [US 5,883,986].

Regarding claim 1, Kopec meets the claim limitations, as follows:

A method of automatically identifying a pattern on a page *[fig. 5]*, comprising:

synthetically generating textual patterns *(i.e. 50)* as signal templates *[fig. 5]*;

compensating *(i.e. 300)*, if necessary, for visual differences between the

synthetically generated textual patterns *(i.e. 50)* and images being compared

against *(i.e. 210)* the synthetically generated images *(i.e. 50) [fig. 5]*; and

comparing compensated images *(i.e. 70)* against images *(i.e. 210)* in a database

(i.e. memory element inherently present) [fig. 5].

Regarding claim 2, Kopec meets the claim limitations, as follows:

The method of claim 1, comprising outputting a signal against *(i.e. 300)* a

synthetically generated image *(i.e. 50) [fig. 5]*.

Regarding claim 3, Kopec meets the claim limitations, as follows:

The method of claim 1, wherein said compensating step accommodates for visual

differences between font typefaces and different font sizes *[col. 26, ll. 41-45]*.

Regarding claim 10, Kopec meets the claim limitations, as follows:

The method of claim 1, comprising producing a similarity matrix *(i.e.*

recognition) for search pattern locations identified in said comparing step *[col.*

26, ll. 20-23].

Regarding claim 11, Kopec meets the claim limitations, as follows:

The method of claim 1, wherein said compensating step <u>can</u> accommodate visual

differences between different typefaces, different font sizes and distortions

introduced in subsequent printing, handling and/or scanning of the page *[col. 26,*

ll. 20-23].

Regarding claim 12, Kopec meets the claim limitations, as follows:

The method of claim 1, wherein said compensating step can accommodate visual

differences occurring from producing a graphic image *[col. 26, ll. 20-23]*.

Regarding claim 13, Kopec meets the claim limitations, as follows:

The method of claim 1, comprising creating a database of metadata *(i.e. 260)* to

use in synthetically generating patterns *[fig. 5]*.

Regarding claim 14, Kopec meets the claim limitations, as follows:

The method of claim 1, comprising creating a target to search for using a search

word specified using numeric characters in the search word *[col. 26, ll. 1-10]*.

Regarding claim 15, Kopec meets the claim limitations, as follows:

The method of claim 14, wherein compensations include small enlargements or

reductions in search pattern size or visual distortions *[col. 26, ll. 41-45]*.

Regarding claims 16-19, all claimed limitations are set forth and rejected as per

discussion for claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

[6]   Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopec in view of Dennis et al. ("Dennis") [US 6,285,802 B1].

Regarding claims 4 and 5, Kopec meets the claim limitations as set forth in claim 1.

Kopec does not explicitly disclose the following claim limitations:

4. The method of claim 1, further comprising deleting a duplicate scanned first page.

5. The method of claim 1, further comprising identifying pages as duplicates and assessing the duplicates for quality and deleting lower quality page of the duplicates.

However, in the same field of endeavor Dennis discloses the deficient claim limitations, as follows:

Removing duplicate images *[col. 1, ll. 12-16]*.

Examiner takes Official Notice on the limitation of detecting quality and deleting lower quality images.

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Kopec with Dennis to remove duplicates of lower quality the motivation being to save storage while maintaining quality *[col. 1, ll. 12-16]*.

Regarding claim 6, Kopec meets the claim limitations, as follows:

The method of claim 5, comprising performing a connected element analysis to

identify speckle and blocks of solid color *[col. 5, ll. 17-19]*.

[7]   Claims 7-9 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kopec

in view of Li et al. ("Li") [US 6,470,092 B1].

Regarding claims 7-9, Kopec meets the claim limitations as set forth in claim 1.

Kopec does not explicitly disclose the following claim limitations:

7. The method of claim 1, wherein the said compensating step comprises reducing

resolution, inserting and mirroring a page image in the database.

8. The method of claim 7, comprising moving the page image from the spatial

domain to a frequency domain.

9. The method of claim 8, comprising reducing resolution, inverting and mirroring

image.

However, in the same field of endeavor Li discloses the deficient claim limitations, as

follows:

Reducing resolution *(i.e. 43)*, inverting *(i.e. 44)* and mirroring *(i.e. 42)* image *[fig.*

2].

Examiner takes Official Notice on the limitation of transforming the image from the

spatial domain to a frequency domain.

It would have been obvious to one with ordinary skill in the art at the time of invention to

modify the teachings of Kopec with Li to create varying the templates the motivation

being to obtain better correlation *[col. 5, ll. 64-67]*. The motivation for frequency

transform being invariance to translation.

Regarding claim 21, all claimed limitations are set forth and rejected as per discussion for

claims 7-9.

[8]   Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kopec in view of

Burke et al. ("Burke") [US 6,351,660 B1].

Regarding claim 20, Kopec meets the claim limitations as set forth in claim 1.

Kopec does not explicitly disclose the following claim limitations:

> The method according to claim 1, wherein comparing compensated images
>
> against images in a database includes: performing a Fast Fourier Transform (FFT)
>
> on the compensated image, moving the compensated image from the spatial to
>
> frequency domain; performing an FFT on a search target image; multiplying the
>
> FFT of the image to be searched by the FFT of the search target image to produce
>
> a correlation plane; performing an inverse FFT of the correlation plane,
>
> converting the correlation plane from the frequency domain to a spatial
>
> specification to produce a similarity matrix for search pattern locations within the
>
> target image; and applying a threshold to the similarity matrix to extract location
>
> of matches above the threshold.

However, in the same field of endeavor Burke discloses the deficient claim limitations, as

follows:

The method according to claim 1, wherein comparing compensated images against images in a database includes: performing a Fast Fourier Transform (FFT) on the compensated image *(i.e. source image)*, moving the compensated image from the spatial to frequency domain *[col. 11, ll. 14-30]*; performing an FFT on a search target image *(i.e. filter image) [col. 11, ll. 14-30]*; multiplying *(i.e. comparing)* the FFT of the image to be searched by the FFT of the search target image to produce a correlation plane *[col. 11, ll. 14-30]*; performing an inverse FFT of the correlation plane, converting the correlation plane from the frequency domain to a spatial specification to produce a similarity matrix *(i.e. correlation pattern)* for search pattern locations within the target image *[col. 11, ll. 14-30]*; and applying a threshold to the similarity matrix to extract location of matches above the threshold *[col. 9, ll. 1-10]*.

It would have been obvious to one with ordinary skill in the art at the time of invention to modify the teachings of Kopec with Burke and use an optical correlator, the motivation being the speed in performing the correlation *[col. 11, 14-30]*.

Allowable Subject Matter

[9]   Combining the limitations of claims 1, 7 and 20 would distinguish the invention over the prior art applied.

Contact Information

[10]   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mr. Sath V. Perungavoor whose telephone number is (571) 272-

7455. The examiner can normally be reached on Monday to Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mr. Matthew C. Bella whose telephone number is (571) 272-7778, can be reached on

Monday to Friday from 9:00am to 5:00pm. The fax phone number for the organization where

this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dated: November 20, 2008   /Sath V. Perungavoor/
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